

Case 2895***Plesiosaurus rugosus* Owen, 1840 (currently *Eretmosaurus rugosus*; Reptilia, Plesiosauria): proposed designation of a neotype**

David S. Brown

*Department of Oral Biology, The Dental School, Framlington Place,
Newcastle upon Tyne NE2 4BW, U.K.*

Nathalie Bardet

*Laboratoire de Paléontologie des Vertébrés, Université Pierre et Marie Curie
(Paris VI) URA 1761-CNRS — Case 106, 4 Place Jussieu, 75252 Paris,
France*

Abstract. The purpose of this application is to conserve the specific name of *Plesiosaurus rugosus* Owen, 1840 in accordance with its accustomed understanding and usage by the designation of a neotype. The specimen proposed (no. BMNH 14435 in the Natural History Museum, London) was described and figured by Owen in 1865. *P. rugosus* Owen, 1840 is the type species of *Eretmosaurus* Seeley, 1874.

1. *Plesiosaurus rugosus* Owen, 1840 (p. 82) was described from fossil vertebrae then in the museums of Bristol and York and in the private collection of Viscount Cole (later Earl of Enniskillen). None of the material was figured, nor were any catalogue numbers or measurements given.

2. Searches for Owen's syntypes were carried out for us at Bristol City Museum, the Yorkshire Museum in York and the Natural History Museum in London which holds the Enniskillen Collection. No specimens or any records pertaining to them could be traced in York or London. Records exist at Bristol of three syntype vertebrae (a cervical and two dorsals) from Aust Cliff, Gloucestershire, which were numbered Cb 2458 and which were destroyed by bombing on 24 November 1940. A brief description and a photograph of the specimens, mounted together with a humerus and femur of no association, were published by Swinton (1948, pp. 357–358, pl. 13). Swinton gave his opinion that the cervical '... is unsatisfactory for any diagnostic purpose, since it is incomplete, worn and smooth.' Dorsal vertebrae have never been considered diagnostic for any plesiosaur species.

3. The taxonomic characters used by Owen (1840) are sufficient only to identify his syntypes at subordinal level: rugosities on vertebral bodies develop ontogenetically; the presence of two cervical rib heads is a primitive character for all Plesiosauria; and the shape of articular faces and relative length of cervical vertebrae vary with ontogeny and with topographical position on the neck (for discussion of characters of plesiosaurian cervical vertebrae see Brown, 1981, pp. 329–330). Thus *Plesiosaurus rugosus* Owen, 1840 is a nomen dubium.

4. Owen in 1865 (pp. 34–40, pls. 14–15) described and figured an almost complete postcranial skeleton of a plesiosaur which he referred to *Plesiosaurus rugosus*,

believing it to belong to his (1840) nominal species. The specimen, from the 'Lower Lias of Leicestershire . . . in the neighbourhood of Granby', is now in the Natural History Museum (catalogue number BMNH 14435).

5. Seeley (1874, p. 445) made *P. rugosus* Owen, 1840 the type species by monotypy of his new genus *Eretmosaurus*. His diagnosis gives characters shown by Owen's (1865) specimen and a detached pectoral girdle (BMNH 2041).

6. Lydekker (1889, pp. 249–250), when cataloguing BMNH 14435 as *Eretmosaurus rugosus* (Owen, 1840), stated that it did not appear absolutely certain that the vertebrae were identical with Owen's types, and concluded that '... the species must date from the description of the undermentioned skeleton' (i.e. from Owen, 1865).

7. *Eretmosaurus rugosus* (Owen, 1840) has been used as a valid name since 1874 although descriptions refer only to specimens BMNH 14435 and 2041. Diagnostic characters include the total number of cervical vertebrae and the structure of the pectoral girdle, which could not have been known from the syntypes. Owen's description of 1840 and the original syntypic series of isolated vertebrae, not diagnostic of a single species-group taxon, have remained forgotten in the primary literature since Lydekker's catalogue of 1889.

8. Although *P. rugosus* has been treated in the taxonomic sense of Owen (1865) it has generally been cited with the date 1840. To avoid confusion and nomenclatural instability we propose the designation of specimen number BMNH 14435 in the Department of Palaeontology of the Natural History Museum, London as the neotype of *Plesiosaurus rugosus* Owen, 1840.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Plesiosaurus rugosus* Owen, 1840 and to designate specimen BMNH 14435 in the Natural History Museum, London as the neotype;
- (2) to place on the Official List of Generic Names in Zoology the name *Eretmosaurus* Seeley, 1874 (gender: masculine), type species by monotypy *Plesiosaurus rugosus* Owen, 1840;
- (3) to place on the Official List of Specific Names in Zoology the name *rugosus* Owen, 1840, as published in the binomen *Plesiosaurus rugosus* (specific name of the type species of *Eretmosaurus* Seeley, 1874) and as defined by the neotype designated in (1) above.

Acknowledgements

We thank Dr P.R. Crowther (*Bristol City Museum*), Mr P.C. Ensom (*The Yorkshire Museum, York*) and Dr A.C. Milner (*The Natural History Museum, London*) for searching for Owen's 1840 syntypes in their collections.

References

- Brown, D.S. 1981. The English Upper Jurassic Plesiosauroidea (Reptilia) and a review of the phylogeny and classification of the Plesiosauria. *Bulletin of the British Museum (Natural History) (Geology)*, **35**(4): 253–347.
- Lydekker, R. 1889. *Catalogue of the fossil Reptilia and Amphibia in the British Museum (Natural History). Part 2. Containing the orders Ichthyopterygia and Sauropterygia*. 307 pp. British Museum, London.

- Owen, R. 1840. Report on British fossil reptiles. Part 1. *Reports of the British Association for the Advancement of Science*, 9: 43–126.
- Owen, R. 1865. Monograph of the fossil Reptilia of the Liassic Formations. Part 3(1). Sauropterygia. *Palaeontographical Society (Monographs)*, 1–40.
- Seeley, H.G. 1874. Note on some generic modifications of the plesiosaurian pectoral arch. *Quarterly Journal of the Geological Society of London*, 30: 436–449.
- Swinton, W.E. 1948. Plesiosaurs in the City Museum, Bristol. *Proceedings of the Bristol Naturalist Society*, 27(4): 343–360.